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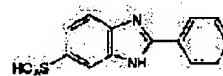
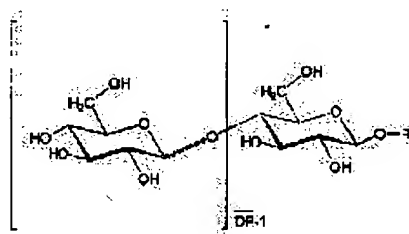
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(54) COSMETIC AND DERMATOLOGIC EMULSION CONTAINING ALKYLGLUCOSIDE AND ELECTROLYTE AT INCREASED CONCENTRATION

(57)Abstract:

PROBLEM TO BE SOLVED: To obtain a cosmetic and dermatologic emulsion having excellent skin-care characteristics by combining a specific surfactant with an electrolyte and setting the ionic strength of the water phase to a specific level.

SOLUTION: This cosmetic and dermatologic emulsion is produced by combining an active amount of one or more kinds of surfactants selected from the group of alkylglucosides of the formula I (R is a 4-24C alkyl; DP is an average glucosylation degree up to 2) with a water phase containing one or more kinds of electrolytes in the phase in dissolved state and having an ionic strength of ≥ 0.075 mol./L. The amount of the glucose derivative of the formula is preferably 0.1-25.0 wt.% based on the total weight of the emulsion. The electrolyte is e.g. 2-phenylbenzimidazole-5-sulfonic acid of the formula II.



LEGAL STATUS

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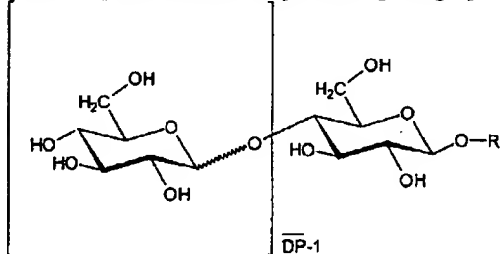
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 CLAIMS

[Claim(s)]

[Claim 1] (a) Structure expression [-izing 1]



the effective dose of one or more sorts of surface active substances chosen from the group which consists of an alkyl glucoside characterized by (the inside of a formula and R are the alkyl groups of not branching of branching of a carbon atom from 4 to 24) -- containing -- becoming -- (b) -- the ionic strength of the aqueous phase which exists in at least one sort of aqueous phase with the gestalt which one or more sorts of electrolytes melted, and exists with the gestalt which the electrolyte melted -- at least 0.075 mols/l. -- it is -- [External Character 1]
 (c) そして、 \overline{DP} は、2までの平均グルコシル化度である、

The makeup target which has at least one sort of aqueous phase, and a dermatology-emulsion.

 [Translation done.]

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[The technical field to which invention belongs] this invention relates to a makeup target and a dermatology-emulsion especially the makeup target of skin care, and a dermatology-emulsion. In a useful mode, this invention relates to the use which enables it to increase the stability of an emulsion, especially O / W emulsion.

[0002]

[Description of the Prior Art] It is an important barrier layer, and the horny layer (Stratum corneum) (horny layer) of epidermis which is an outside layer most is important especially in order to divide it and to protect it to environmental influence and xeransis so. As a result of a contact by the environment, a horny layer drops out continuously, therefore must be reproduced continuously.

[0003] The model of the skin widely used by the concerned special field of study expresses the horny layer as two-component system similar to a brick wall today (brick and mortar model). In this model, a keratin cell (corneocytes) (keratin cell) is brick, and the conjugated lipid of an intercellular space is mortar.

[0004] It contributes also to chemical and external connecting the horny layer other than the barrier effect over physical influence, and the lipid of epidermis also affects the smoothness of the skin. Unlike the sebaceous-gland lipid which does not form a continuous layer on the skin, the lipid of epidermis is distributed over all horny layers.

[0005] The very complicated interaction of a moisture cementing material and the lipid of the upper layer of the skin is very important because of adjustment of the moisture of the skin. Therefore, in addition to the lipid mixture and water which were able to take the balance, cosmetics usually come to contain a moisture cementing material.

[0006] However, the physical behavior of these matter as well as chemical composition is important. Therefore, a development of the emulsifier of the high biocompatibility which has a liquid-crystal property, and a surfactant is desirable. The product which blended these maintains the liquid-crystal structure of the lipid between cells of a horny layer, therefore improves the barrier property of a horny layer. It is especially useful when the molecule component of such a product becomes epidermis from the matter which exists naturally.

[0007] It is thought that the main roles of makeup-skin care are reinforcing the function of skin original as a barrier to environmental influence (for example, becoming dirty chemicals, a microorganism) and an endogenicity loss of substance (for example, moisture, a natural fat, an electrolyte), or making it recover.

[0008] poisonous as a result of [its] the poisonous absorption from which the matter of allergy nature increased **, or the attack by the microorganism, when this function is barred -- ** may trigger the skin reaction of allergy nature

[0009] Another purpose of skin care is supplying the fat and moisture which are lost from the skin as a result of daily washing. Especially this is important when the original ability to regenerate is inadequate. Furthermore, to environmental influence, a skin care product should be protected especially to daylight and a wind, and should delay aging of the skin.

[0010] A medical-application local constituent usually comes to contain one or more sorts of medicines of effective concentration. In order to distinguish clearly the object for makeup, medical application, and a corresponding product for simplification, let a law convention (for example, cosmetics regulations (Cosmetics Regulation), food, and chemical regulations (Foods and Drugs Act)) of the Federal Republic of Germany be bibliography.

[0011] The metastable dichotomy which the emulsion of the usual gestalt which adds cosmetics, i.e., each phase, is liquefied, and exists is a polyphase system. The most general emulsions are O/W, and W / O emulsion. the universality remainder -- the addition gestalt which is not high is a multiplex emulsion, i.e., the thing to which those parts come to contain the drop of the further dispersed phase in the drop of a distributed (or discontinuous) phase, for example, W/O / W emulsion, and O/W / O emulsion

[0012] In order for the metastable nature of an emulsion to be securable, the surface active substance, i.e., an emulsifier, is usually required.

[0013] The use of the usual emulsifier for makeup itself may be received completely. Nevertheless, an emulsifier may trigger an allergic reaction or the reaction based on a user's anaphylaxis in a certain case as a certain chemical.

[0014] For example, it is especially known for sensitive people of the skin that the optical dermatosis (light dermatoses) of a certain kind will be caused by a certain kind of emulsifier and the operation of daylight which happens simultaneously.

[0015] For example, it is possible to prepare the manufacture object which does not contain the emulsifier which has the oil droplet distributed in the aqueous phase like O / W emulsion. As a prerequisite for this, the continuous aqueous phase may be

having the gel backbone which stabilizes a dispersed phase and other other status. Occasionally as for such a system, which is called a moisture powder system or oil-content powder system by dispersed phase **** and which are continuous phases.

[0016]

[Problem(s) to be Solved by the Invention] However, since it divides to especially makeup-technique and it has selection of a quiet emulsifier of a certain kind, it is unnecessary to exclude an emulsifier completely and it is not possible, either. However, the similar technique to precede lacks such an emulsifier of the domain large enough which will also extend notably the application domain of the quiet corresponding makeup-manufacture object which is resistance on the skin.

[0017] Therefore, the purpose of this invention was offering the makeup target which has the outstanding skin care property, and a dermatology-manufacture object.

[0018]

[Means for Solving the Problem] Especially the inconvenient point of O / W emulsion often has the inadequate stability over comparatively high electrolyte concentration, and is that a phase separation happens. Although the case of O / W system is by no means important more nearly here, as for this, even the case of W / O emulsion may bring a problem occasionally. suitable selection of an emulsifier system -- these -- often -- to some extent -- until -- although it is improvable, another inconvenient point often arises

[0019] On the other hand, it is desirable at another case of a certain kind of electrolyte where it is many physical, chemical, or to use these so that a physiological property can be used.

[0020] The concentration of all the components of a makeup dermatology-manufacture object is usually shown by units, such as weight % and mol %. If the maceration to the cation and anion which happen by the parvus grade more in some dissociation phases or it is often more large is taken into consideration, it will be thought more convenient to begin this invention and an explanation of the technical background from the ionic strength in the solution of the given electrolyte.

[0021] Ionic strength I of an electrolytic solution is [0022].

[Equation 1]

$$I = \frac{1}{2} \sum c_i z_i^2$$

[0023] c_i is the concentration (mol/l. unit) of the ion of each mold among a formula, and suppose that z_i are those charges and it defines. The physical unit of ionic strength is the thing of concentration (mol/l).

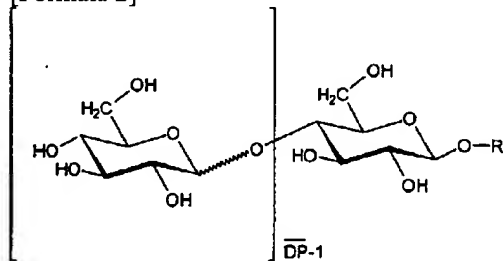
[0024] For example, a strong (=0.17 mol) sodium chloride solution has the ionic strength of $I = 0.17$ 1%.

[0025] Therefore, another purpose of this invention was a stable thing for which the manufacture technique of a makeup dermatology-emulsion, or especially O / W emulsion is found out to electrolyte concentration - which increased, or the ionic strength which increased.

[0026] It was also the purpose of this invention to offer the manufacture object which improves the status of the skin, especially the granularity of the skin remarkably.

[0027] Unexpectedly, it is (a) structure expression [0028].

[Formula 2]



[0029] (R is the alkyl group of not branching of branching of a carbon atom from 4 to 24, among) a formula, It comes to contain the effective dose of one or more sorts of surface active substances chosen from the group which consists of an alkyl glucoside made into *****. (b) The ionic strength of the aqueous phase which exists in at least one sort of aqueous phase with the gestalt which one or more sorts of electrolytes melted, and exists with the gestalt which the electrolyte melted is at least 0.075 mols/l., and it is [0030].

[External Character 2]

(c) そして、DPは、2までの平均グルコシル化度である、

[0031] Improving the inconvenient point of the similar technique which the makeup target which has at least one sort of aqueous phase, and a dermatology-emulsion precede is shown, and the solution over the aforementioned technical problem is offered here.

[0032] Therefore, manufacture object of the similar technique which the manufacture object of this invention precedes - It is an effective moisture supply manufacture object. - The smoothness of the skin is promoted well. - It is characterized by the outstanding protective action. - It is the excipient which was excellent in the makeup target and the medical-dermatology-active substance. - Have a high stability over decomposition in an oil and the aqueous phase, and it is -. This contractor has not predicted that it was characterized by the outstanding biocompatibility.

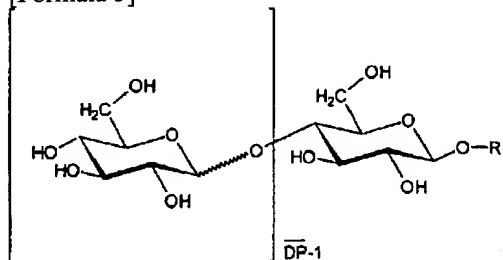
[0033] It is actually EP-A-0. 629 396 has described the stable makeup-emulsion which has the characteristic feature in the

content of an alkyl glucoside. According to the claim 6 in the above-mentioned quotation, these manufacture objects can also contain salts. The ionic strength of the electrolyte described into it which is concretely indicated in an example and is based on weight concentration is 0.046 mols [l.] (sodium hydroxide of an example 1) /, 0.023 mols [l.] (sodium hydroxide of an example 2) /, and 0.03 mols (Na₂H₂DETA of an example 5)/l., and since it is very low in this way, it does not suggest the indication matter according to this invention.

[0034] EP-A-0 629 Still another stable makeup-emulsion containing the electrolyte which has the ionic strength of 0.023 mols (sodium hydroxide)/l. is shown, and although this example 6 contains an alkyl glucoside similarly, it has pointed out the manufacture object by WO 92/06778 to the example 6 of 396. The latter specification is not describing use of electrolytes at all. Therefore, the similar technique to precede did not make this invention possible.

[0035] this invention is (a) structure expression [0036].

[Formula 3]



[0037] (R is the alkyl group of not branching of branching of a carbon atom from 4 to 24, among) a formula, It comes to contain the effective dose of one or more sorts of surface active substances chosen from the group which consists of an alkyl glucoside made into *****. (b) The ionic strength of the aqueous phase which exists in at least one sort of aqueous phase with the gestalt which one or more sorts of electrolytes melted, and exists with the gestalt which the electrolyte melted is at least 0.075 mols/l., and it is [0038].

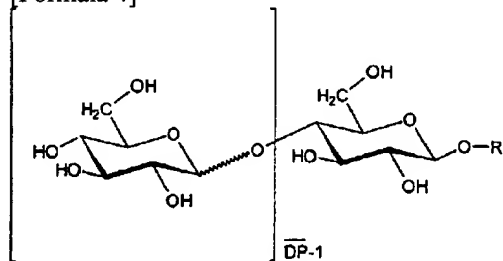
[External Character 3]

(c) そして、 \overline{DP} は、2までの平均グルコシル化度である、

[0039] It is related also with the use for the skin care of the makeup target which has at least one sort of aqueous phase and a dermatology-emulsion, especially O / W emulsion.

[0040] this invention is a structure expression [0041], in order to acquire [as opposed to / presence of an electrolyte / especially / in order to acquire the stability of an emulsion or to increase to presence of an electrolyte] the stability of O / W emulsion or to increase further.

[Formula 4]



[0042] (It is the alkyl group of not branching of branching of a carbon atom from 4 to 24, and the inside of a formula and R are [0043].)

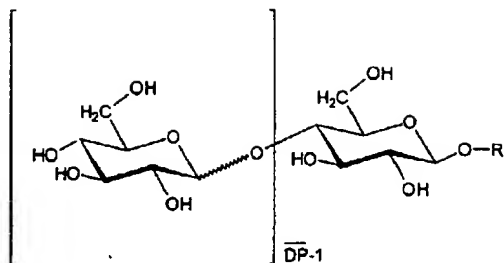
[External Character 4]

あり、 \overline{DP} は2までの平均グルコシル化度である)、を特徴とするアルキルグル

[0044] It is related also with using one or more sorts of surface active substances chosen from the group which consists of *****.

[0045] An emulsion sets especially this invention to at least one sort of aqueous phase. Contain with the gestalt which melted one or more sorts of electrolytes, and when the ionic strength of the aqueous phase which exists with the gestalt which the quality of the electric field melted is at least 0.075 mols/l. In order to acquire [as opposed to / presence of an electrolyte / especially / in order to acquire the stability of an emulsion or to increase to presence of an electrolyte] the stability of O / W emulsion or to increase, it is a structure expression [0046].

[Formula 5]



[0047] (It is the alkyl group of not branching of branching of a carbon atom from 4 to 24, and the inside of a formula and R are [0048].)

[External Character 5]

あり、DPは2までの平均グルコシル化度である)、を特徴とするアルキルグル

[0049] It is related with using one or more sorts of surface active substances chosen from the group which consists of *****.

[0050]

[External Character 6]

DP値は、本発明で用いるアルキルグルコシドのグルコシル化度を表し、

[0051]

[Equation 2]

$$\overline{DP} = \frac{p_1}{100} \cdot 1 + \frac{p_2}{100} \cdot 2 + \frac{p_3}{100} \cdot 3 + \dots = \sum \frac{p_i}{100} \cdot i$$

[0052] p1, p2, and p3 ... and pi presuppose that the rate of 1, 2, and the product by which the glucosylation was carried out 3...i times is expressed with percentage by weight, and are defined The product which has the degree of glucosylation of 1-2 in this invention is convenient, especially the thing that has the degrees of glucosylation from 1.1 to 1.5 is convenient, and very especially the thing that has the degree of glucosylation of about 1.3 is convenient.

[0053]

[External Character 7]

DP値は、アルキルグルコシドが、通常、調製によりモノー及びオリゴグルコ

[0054] It is taking that it is the mixture of **** into consideration. In this invention, the mono-glucoside of a comparatively high content of the degree of 40-70% of a size is typically convenient by the weight. Typical oligomer distribution of the degree of glucosylation of about 1.3 is shown in drawing 1.

[0055] R is chosen from the group which consists of a non-branching alkyl group with sufficient convenience, and a milli still, a cetyl, stearyl, and its ray ***** machine are desirable in that case.

[0056] For example, DE-OS40 40 By the technique which was described by 655 and other specifications, the alkyl glucoside used by this invention can be obtained. These are marketed from various manufacturers.

[0057] For example, it is convenient to use the mixture of a stearyl glucoside and a cetyl glucoside. Such mixture is TegoR(trademark) Care from for example, Th.GoldschmidtKG. SG It is marketed with the tradename of 90.

[0058] The whole quantity of one or more sorts of surface activity glucose derivatives used by this invention in the makeup target which completed, and a dermatology-manufacture object is chosen from 0.1-25.0% of a domain with 0.5-15.0% to convenience desirable and sufficient by the weight by the weight based on the total weight of a manufacture object.

[0059] By this invention, an electrolyte is chosen from the group which consists of the following with sufficient convenience.

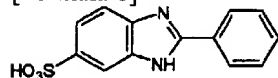
[0060] (1) The salts including the following anions, i.e., chloride, and inorganic oxo component anions especially a sulfate, a carbonate, phosphate, a borate, and an aluminate. The electrolyte based on an organic anion, for example, a lactate, acetate, a benzoate, a propionate, a tartrate, a citrate, amino acid, its salts, etc. are convenient. The same effect can be acquired even if it uses ethylenediaminetetraacetic acid and its salts.

[0061] The cations of salts used preferably are ammonium, alkylammonium, alkali metal, alkaline earth metal, magnesium, iron, and zinc ion. Needless to say, only the electrolyte which may be received physiologically should be used by cosmetics.

Especially desirable things are potassium chloride, a sodium chloride, magnesium sulfate, zinc sulfates, and such mixture.

[0062] (2) At this invention, an electrolyte is the thing which is water-soluble UV VCF matter of a certain kind which mainly concerns and exists as an alkali-metal salt, and holds one or more sulfonic groups or a sulfonate machine on molecule backbone especially, i.e., a 2-phenyl benzimidazole-5-sulfonic acid, its salts, for example, sodium, a potassium or a triethanol ammonium salt, and [0063].

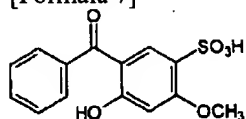
[Formula 6]



[0064] the ***** acid derivative of a benzophenone -- desirable -- a 2-hydroxy-4-methoxybenzophenone-5-sulfonic acid and

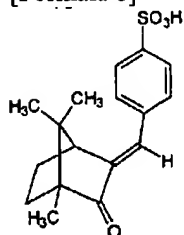
its salts, for example, corresponding sodium, a potassium or a triethanol ammonium salt, and [0065]

[Formula 7]



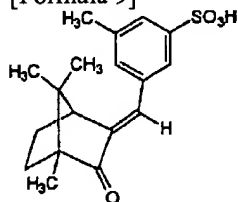
[0066] For example, the sulfonic-acid derivative of 3-benzylidene camphor like 4-(2-oxo-3-methyl-5-sulfophenyl)-2-phenyl-3-hydroxybutanoic acid and its salts, for example, corresponding sodium, a potassium or a triethanol ammonium salt, [0067]

[Formula 8]



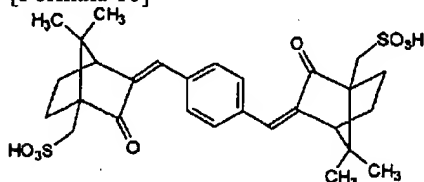
[0068] A 2-methyl-5-(2-oxo-3-methyl-5-sulfophenyl)-2-phenyl-3-hydroxybutanoic acid and its salts, for example, corresponding sodium, a potassium or a triethanol ammonium salt, [0069]

[Formula 9]



[0070] 1 and 4-methyl-5-(2-oxo-3-methyl-5-sulfophenyl)-2-phenyl-3-hydroxybutanoic acid and its salts (corresponding 10-sulphato compound, for example, corresponding sodium, a potassium, or triethanol ammonium salt), [0071]

[Formula 10]



[0072] since -- it is chosen with convenience sufficient also from the becoming group

[0073] By this invention, an electrolyte is chosen with convenience sufficient also from the group which consists of the following.

[0074] (3) Amino acid and its salts, or its anions

[0075] Amino acid is the component of a natural hydration factor. Since moisture is combinable with the skin with a hydration process, it is thought that addition of amino acid, especially an essential amino acid is convenient.

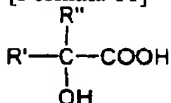
[0076] Especially the convenient amino acid that has a makeup dermatology-operation is a glycine, an alanine, a valine, a leucine, an isoleucine, a phenylalanine, a tyrosine, a proline, a hydroxyproline, a serine, a threonine, a cysteine, a methionine, a tryptophan, and an arginine.

[0077] By this invention, an electrolyte is chosen with convenience sufficient also from the group which consists of the following.

[0078] (4) It is especially these salts and can choose with the group which consists of ammonium, alkylammonium, alkali metal, alkaline earth metal, magnesium, iron, and zinc ion in cations in that case to alpha-hydroxycarboxylic acid suitable [makeup] in dermatology, an alpha-keto carboxylic acid, beta-hydroxycarboxylic acid, and sufficient convenience.

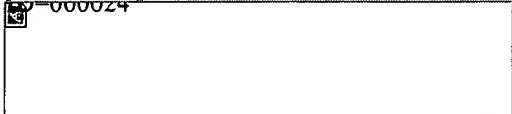
[0079] alpha-hydroxycarboxylic acid suitable [makeup] in dermatology or is a general formula [0080].

[Formula 11]



[0081] It is alike, and agrees and beta-hydroxycarboxylic acid suitable [makeup] in dermatology or is a general formula [0082].

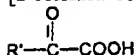
[Formula 12]



[0083] It is alike, and agrees and an alpha-keto carboxylic acid suitable [makeup] in dermatology or is a general formula

[0084].

[Formula 13]

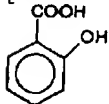


[0085] It is alike and agrees. R' and R'' of each **** among the above-mentioned formula It becomes independent mutually. H(a1)- and branching (a2) Or a non-branching C1-25-alkyl, Branching replaced by one or more carboxyl groups, the hydroxyl, the aldehyde group, and/or the oxo base (keto base) Or a non-branching C1-25-alkyl, (a3) The phenyl replaced by the C1-25-alkyl group without a phenyl, one (a5) or more carboxyl groups, a hydroxyl, branch separation, and/or a branch, (a4) It is chosen from the becoming group. since -- alpha-carbon atom of beta-hydroxycarboxylic acid, and beta-carbon atom Non-replaced the cycloalkyl machine or aryl group which becomes together with R' and R'' and has the ring atoms from 3 (a6) to 7, Or (a7) the cycloalkyl machine or aryl group which has the ring atoms from three to seven, and was replaced by one or more carboxyl groups and/or a hydroxyl and/or the oxo base (keto base) and/, branching and/, or the non-branching C1-25-alkyl group, It may ***** and alpha-hydroxycarboxylic acid, beta-hydroxycarboxylic acid, or the alpha-keto carboxylic acid may exist with the gestalt of those salts permitted physiologically by the case.

[0086] alpha-hydroxycarboxylic acid, beta-hydroxycarboxylic acid, and the alpha-keto carboxylic acid which are what is used with sufficient convenience are shown below, and these are also representation of those salts and anions.

[0087] Structure, [0088]

[Formula 14]



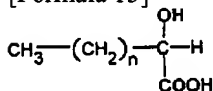
[0089] The salicylic acid made into ***** (again 2-hydroxybenzoic acid).

[0090] A salicylic acid has antibacterial and a keratolysis operation, and is the component of some makeup dermatology-manufacture objects as known.

[0091] alpha-hydroxycarboxylic acid used by this invention These with the matter of the following modalities, i.e., an alpha(a2)-hydroxy fatty acid, similarly Are especially chosen from the group which consists of a C10-18-alkyl carboxylic acid with sufficient convenience. (a3) alpha - hydroxy -- a saccharic acid -- aliphatic series -- alpha - hydroxy -- **** -- un-(a4) -- a substitute -- aromatic series -- alpha - hydroxycarboxylic acid (for example, mandelic acid) -- and (a5) -- a substitute -- carrying out -- having had -- aromatic series -- alpha - hydroxycarboxylic acid -- **** -- convenience -- good -- choosing -- having .

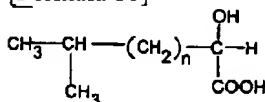
[0092] alpha-hydroxy fatty acid included in the item of (a2), - Formula [0093]

[Formula 15]



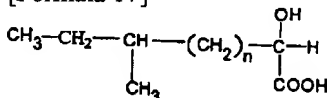
[0094] ** alpha-hydroxycarboxylic acid and/or - Formula [0095]

[Formula 16]



[0096] A ** alpha-hydronalium ***** carboxylic acid and/or - Formula [0097]

[Formula 17]



[0098] n is especially chosen from the group which becomes in each **** since it is the numbers from 7 to 31 with sufficient convenience among a ** alpha-hydroxy ***** iso carboxylic acid and the above-mentioned formula.

[0099] It is also convenient to use the mixture of such aliphatic series alpha-hydroxycarboxylic acid with the gestalt of wool (sheep wool) low acid mixture especially, and the content of alpha-hydroxycarboxylic acid is 20-30% by the weight based on all

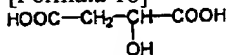
constituents in that case.

[0100] alpha-hydroxy saccharic acid included in the item of (a3), - An aldonic acid, for example, a gluconic acid, galactonic acid, - An aldaric acid, for example, a glucaric acid, ***** tar acid (and tartaric acid of **** which goes into a definition of an aldaric acid similarly), - A uronic acid, for example, a glucuronic acid, galacturonic acid, - It is especially chosen from the group which consists of a glyceric acid with sufficient convenience.

[0101] Aliphatic series alpha-hydroxy **** included in the item of (a3) is especially chosen from the group which consists of a malic acid, a lactic acid, a citric acid, and a tartaric acid with sufficient convenience.

[0102] Malic acids (hydroxy succinic acid) are the following chemical structures [0103].

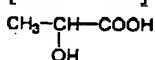
[Formula 18]



 [0104] It considers as *****.

[0105] Lactic acids (2-hydroxy propanoic acid) are the following chemical structures [0106].

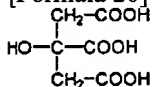
[Formula 19]



[0107] It considers as *****.

[0108] Citric acids (2-hydroxy propane - 1, 2, 3-tricarboxylic acid) are the following structures [0109].

[Formula 20]

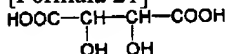


[0110] It considers as *****.

[0111] In order [makeup] to adjust pH of a dermatology-manufacture object, a citric acid is used as synergism matter of the antioxidant of the skin and thrix cosmetics, as known.

[0112] Tartaric acids (dihydroxy succinic acid) are the following chemical structures [0113].

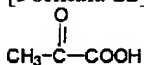
[Formula 21]



[0114] It considers as *****.

[0115] A desirable alpha-keto carboxylic acid is a pyruvic acid (alpha-oxo propanoic acid). This is the following structures [0116].

[Formula 22]



[0117] It considers as *****.

[0118] The peak of the electrolyte to use is decided with those solubility in the aqueous phase after all. however, which ground -- be -- the further amount of the electrolyte exceeding the solubility of this electrolyte -- for example, it considers as an insoluble solid-state, and since it may be just convenient makeup to carry out a mixing to a dermatology-manufacture object in a certain case, instruction of this invention shows no peak as a limitation in principle

[0119] Water-soluble or non-water-soluble the metallic oxide and/or other metallic compounds with which the makeup target of this invention and the dermatology-manufacture object were restricted, Especially Titanium (TiO₂), zinc (ZnO), iron (for example, Fe₂O₃), The inorganic pigment based on the oxide of a zirconium (ZrO₂), silicon (SiO₂), manganese (for example, MnO), aluminum (aluminum₂O₃), and a cerium (for example, Ce₂O₃), the mixed oxide of a corresponding metal, and the mixture of such an oxide is also included with sufficient convenience. Especially the pigment based on TiO₂ is desirable.

[0120] It is especially convenient when surface treatment is carried out so that these inorganic pigments may exist with the hydrophobic gestalt, namely, water may be crawled for the purpose of this invention, although it is not required by any means. This surface treatment may be giving a hydrophobic thin layer to a pigment by the technique of being known in itself.

[0121] Such one technique is for example, n TiO₂+m. n and m are arbitrary chemistry quantitative parameters among (RO)₃Si-R' -> n TiO₂ (front face (surf.)) formula, and R and R' is generating a hydrophobic surface layer by the reaction of ** which is a suitable organic machine. For example, DE-OS 3314th A pigment like No. 742 made hydrophobic is convenient.

[0122] For example, TiO₂ convenient pigment can be purchased with the tradename of M160 and Degussa to T 805 from MT 100 T from TAYCA, and Kemira.

[0123] It can have a constituent [makeup / of this invention] usual in a dermatology-photoprotection compound, and these can be used as a makeup product of the decorative cosmetics for / for a makeup dermatology-photoprotection / processing of the skin and/or the thrix, protection, and washing.

[0124] It is amount sufficient because of use, and the makeup target of this invention and a dermatology-manufacture object are added by the customary technique for cosmetics at the skin and/or the thrix.

[0125] Especially a desirable makeup target and a desirable dermatology-manufacture object are the thing of the gestalt of a sunscreen agent. these -- at least one sort of further UVA VCFs, at least one sort of UVB VCFs, and/or at least one sort of inorganic pigments -- an inorganic micro pigment (micropigment) can be preferably included with still sufficient convenience

[0126] The makeup target of this invention and a dermatology-manufacture object can contain other usual makeup components of a dermatology-compound like what is usually used by such manufacture object, for example, antiseptics, a germicide, perfume, a defoaming agent, a color, the pigment that has a tinction operation, a thickener, a moisture riser and/or a wetting agent, a fat, an oil, a makeup-assistant or alcohol, a polyol, a polymer, a cellular stabilizer, an electrolyte, an organic solvent, or a silicone

[0127] Usually, the further inclusion of an antioxidant is desirable. Or the desirable antioxidant which can be used by this invention was suitable for makeup dermatology-intended use, they are all customary antioxidants.

[0128] an antioxidant -- amino acid (for example, a glycine, a histidine, and a thyrosin --) A ***** fan and its derivative, an imidazole (for example, urocanic acid), and its derivative, A peptide like D, L-carnosine, D-carnosine, and L-carnosine, and its derivative (for example, anserine), carotenoid, and carotene (for example, alpha-carotene --) beta-carotene, psi-lycopene and its derivative, a chlorogenic acid, and its derivative, A lipoic acid and its derivative (for example, dihydrolipoic acid), a ***** thio glucose (aurothioglucose), a propyl thiouracil and other thiols (for example, a thioredoxin --) A glutathione, a cysteine, a cystine, the cystamine, and its glycosyl, N-acetyl, a methyl, an ethyl, a propyl, an amyl, butyl, and lauryl, PAL ***** , oleyl one, gamma-***** , cholesteryl, glyceryl ester, and its salts, Dilauryl thiodipropionate, distearyl thiodipropionate, a thiodipropionic acid and its derivative (ester, the ether, and a peptide --) A lipid, a nucleotide, a nucleoside, a salt, and a very low permission dosage The sulfo ***** compound of (pmol or mumol/kg [for example,]) (For example, *****-sulfo-***** and it homocysteine-sulfo-*****s.) A ***** sulfone, ***** -, hexa -, ***** thionine sulfo ***** , and (metal) a chelating agent (for example, an alpha-hydroxy fatty acid and a palmitic acid --) a phytic acid, lactoferrin, and alpha-hydroxy acid (for example, a citric acid --) A lactic acid, a malic acid, a humic acid, bile acid, a bile extract, a bilirubin, a biliverdine, EDTA, EGTA and its derivative, unsaturated fatty acid, and its derivative For example, (gamma-linolenic acid, linolic acid and an oleic acid), a folic acid, and its derivative, A full ***** DIN sorbitol and its derivative, a ubiquinone, a ubiquinol, and its derivative, vitamin C and a derivative (for example, ascorbyl palmitate and Mg ***** building phosphate --) ***** building acetate, a tocopherol, and a derivative (for example, vitamin-E acetate), Vitamin A, a derivative (vitamin A palmitate), and ***** of a benzoin, A rutin acid (rutinic acid) and its derivative, alpha-glycosyl rutin, A ferulic acid, a full ***** DIN glucitol, a carnosine, butylhydroxytoluene, Burylhydroxyanisole, a ***** hydronalium ***** acid (nordihydroguaiaic acid), A nordihydroguaiaietic acid (nordihydroguaiaietic acid), The trihydroxy butyrophene, a uric acid and its derivative, a mannose, and its derivative, Zinc and its derivative (for example, ZnO, ZnSO₄), a selenium, and its derivative (For example, the selenomethionine), a stilbene, and its derivative It is chosen from the group which consists of a derivative (a salt, ester, the ether, sugar, a nucleotide, a nucleoside, a peptide, and lipid) of this active substance suitable for (for example, the stilbene oxide and the transformer-stilbene oxide) and this invention with sufficient convenience.

[0129] The amount of the above-mentioned antioxidant in a manufacture object (one or more sorts of compounds) is 1-10% by the weight to 0.05 to 20% in a weight especially preferably [especially] to 0.001 to 30% with a weight based on the total weight of a manufacture object preferably.

[0130] When vitamin E and/or its derivative are used as an antioxidant or two or more antioxidants, each of such concentration is chosen from 0.001-10% of a domain with sufficient convenience by the weight based on the total weight of a compound.

[0131] When vitamin A, a vitamin A derivative, carotene, or its derivative is used as an antioxidant or two or more antioxidants, each of such concentration is chosen from 0.001-10% of a domain with sufficient convenience by the weight based on the total weight of a compound.

[0132] It is the group of the following matter, i.e., -, about a lipid phase. Mineral oil, ore low, - An oil like the triglyceride of a capric acid or a caprylic acid, however -- desirable -- the castor oil and - a fat, the nature of a low and others, and the composite fat matter -- preferably The alcohol of a small number of carbon atom, for example, an isopropanol, a propylene glycol, or the ester of a glycerol and a fatty acid, Or the alkane acid of a small number of carbon atom or a fatty acid, and ester of a fatty alcohol, - Alkyl benzoate and - silicon oil like dimethylpolysiloxane, a diethyl polysiloxane, and a diphenyl polysiloxane, and its mixture -- since -- it can choose with sufficient convenience

[0133] For the purpose of this invention, the oil phase of an emulsion, oil gel (oleogels) and a moisture powder system, or an oil-content powder system From branching of the saturation of the chain length of the alkane carboxylic acid of not branching of branching of the saturation of the chain length of the carbon atoms from 3 to 30, and/or an unsaturation, and the carbon atoms from 3 to 30, and/or an unsaturation, and/or the group which consists of ester of non-branching alcohol aromatic -- a carboxylic acid -- three -- **** -- 30 -- up to -- carbon -- an atom -- a chain length -- a saturation -- and/or -- an unsaturation -- branching -- and/or -- un--- branching -- alcohol -- ester -- **** -- becoming -- a group -- **** -- convenience -- good -- choosing -- having . Such ester oil A myristic-acid isopropyl, a palmitic-acid isopropyl, A stearin acid isopropyl, an oleic-acid isopropyl, stearin acid n-butyl, A lauric-acid n-hexyl, oleic-acid n-***** , a stearin acid iso octyl, A stearin acid iso nonyl, an iso nonoic-acid iso nonyl, palmitic-acid 2-ethylhexyl, Lauric-acid 2-ethylhexyl, stearin acid 2-hexyl ***** , the convenience from the group which consists of a palmitic-acid 2-octyl dodecyl, oleic-acid oleyl, erucic-acid oleyl, oleic-acid ***** , erucic-acid ***** and such synthesis of ester, a semisynthesis, and natural mixture, for example, a jojoba oil, -- good -- it can choose .

[0134] Moreover, an oil phase can be especially chosen with convenience sufficient also from branching of the saturation of the chain length of the carbon atom of 12-18, and/or an unsaturation, and/or the group which consists of triglycerol ester of a

non-branching alkane carboxylic acid from branching and the group which consists of a non-branching hydrocarbon and a hydrocarbon low, silicon oil, and the dialkyl ether to the alcohol of not branching of branching of a saturation or an unsaturation, and a fatty-acid triglyceride, eight to 24 [i.e.,].

[0135] the convenience from the group which consists a fatty-acid triglyceride of synthesis, a semisynthesis and a natural oil, for example, olive oil, a sunflower oil, the soybean oil, peanut oil, the rapeseed oil, an almond oil, palm oil, a coconut oil, a real oil of a palm, etc. -- good -- it can choose .

[0136] Because of the purpose of this invention, all the mixture of such an oil and a low component can also be used with sufficient convenience. When required, it may also be convenient to use a low, for example, the cetyl palmitate, as an only lipid component of an oil phase.

[0137] an oil phase -- isostearic acid -- two - ethylhexyl -- an octyl -- a dodecanol -- iso -- a nonoic acid -- iso -- tridecyl -- iso -- an eicosane -- two - ethylhexyl -- ***** -- a benzoic acid -- C -- 12 - 15 - an alkyl -- a caprylic acid -- /-- a capric acid -- a triglyceride -- and -- ***** -- the ether -- **** -- becoming -- a group -- **** -- convenience -- good -- choosing -- having .

[0138] A benzoic-acid C12-15-alkyl and isostearic acid 2 - Especially the mixture of mixture [of ethylhexyl mixture, a benzoic-acid C12-15-alkyl, and iso nonoic-acid iso tridecyl] and benzoic-acid C12-15-alkyl, and isostearic acid 2-ethylhexyl and iso nonoic-acid iso tridecyl is convenient. The hydrocarbons which can be used with sufficient convenience because of the purpose of this invention are a paraffin oil, a squalane, and squalene.

[0139] An oil phase also being able to contain the silicon oil of a ring type or a straight chain with sufficient convenience, or containing other oil phase components further in addition to silicon oil or two or more silicon oil can consist of completely such a desirable however oil. Cyclo ***** (cyclomethicone) (octamethylcyclotetrasiloxane) is silicon oil used with sufficient convenience by this invention. However, other silicon oil, for example, a hexa methyl cyclotrisiloxane, a poly-dimethyl siloxane, and poly (methylphenyl siloxane) can be used with sufficient convenience because of the purpose of this invention.

[0140] The mixture of cyclo ***** and iso nonoic-acid iso tridecyl, cyclo *****, and isostearic acid 2 - Especially ethylhexyl mixture is convenient.

[0141] Aqueous phase of the manufacture object of this invention, - A small number of alcohol, diol, or polyol of a carbon atom, and these ether -- desirable -- ethanol and an isopropanol -- A propylene glycol, a glycerol, ethylene glycol, ethylene glycol monoethyl, or the monobutyl ether, Propylene-glycol monomethyl, monoethyl, or the monobutyl ether, Diethylene-glycol monomethyl or the monoethyl ether, and a similar product, And the alcohol of a small number of carbon atom, for example, ethanol, an isopropanol, In 1, 2-propanediol, a glycerol, and especially a list, a silicon dioxide, An aluminum silicate, polysaccharides, and those derivatives, for example, a hyaluronic acid, The group which consists of xanthene rubber and the hydroxypropyl methylcellulose to convenience is good.

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